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Hope, values, and goals:

Predicting goal success and mental health outcomes

Undergraduate Honors Thesis

Presented in partial fulfillment of the requirements for graduation
with honors research distinction in Psychology in the
undergraduate college of The Ohio State University

By

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Abstract

With this study, we aimed to further understand the relations among goals, values, and hope. Hope consists of agency, which is the motivation to pursue a goal, and pathways, or the perceived ability to construct routes to attain the goal. Previous research demonstrates that high hope individuals achieve their goals more often and have better psychological functioning when compared to low hope individuals (Feldman & Dreher, 2012; for a review see Cheavens & Ritschel, 2014). Additionally, according to Hope Theory (Snyder, 2002), successful goal pursuits occur in the context of and align with one's values; therefore, values may be an important individual difference associated with goal pursuits and mental health functioning. In this study, 162 students from introductory psychology classes participated in three study sessions. In the first session, participants completed self-report questionnaires of demographics, psychological functioning, and values. Participants listed three goals that they planned to achieve in the following week and month, and ranked their top five values. The second and third sessions took place one week and one month later, respectively, and participants gave updates on goal progress. All goals were coded for concordance with each of the 10 values by objective raters (N = 3). We found that all values were positively correlated with hope and negatively correlated with symptoms of psychopathology. Hope at time 1 predicted goal completion at the one-week and one-month follow-up. Although hope was related to all values in bivariate analyses, significant variance in hope scores was accounted for only by the value of benevolence in multivariate analyses. Finally, results showed that hope moderates the relationship between congruence and monthly goal completion.

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Chapter 1: Introduction

Hope theory, proposed by Snyder (1994), defines hope in terms of pathways thinking, agency thinking, and goals. Pathways thinking involves the capacity to imagine and construct workable routes to a desired outcome given the individual's present state. Therefore, pathways thinking reflects the individual's perceived ability to link the present to the future by imagining routes to move from a current state to a desired future. For example, a student who studies for 30 minutes each night, goes to a professor's office hours, and reads the statistics textbook would be enacting multiple pathways to reach the goal of getting an A in the statistics class. High hope individuals tend to construct multiple routes to achieve a goal, so that when one route is blocked, the individual can disengage from that route and consequently construct and execute a different route (Heiy, Feldman, Rand, & Cheavens, 2015).

Agency thinking is the motivational aspect of hope, which involves having the energy, motivation and belief that a desired outcome can be reached (Snyder, 1994). Agency thinking involves thoughts about one's ability to initiate and maintain movement along the constructed pathways toward the goal even when faced with goal blockage. Agency thinking could be expressed in motivational self-statements, such as "I think I can," murmured by the beloved train in *The Little Engine That Could* (Piper, 1978).

Finally, Snyder defined goals as the mental endpoints of fixed effort. In other words, goals are the desired outcome resulting from purposeful, organized behavior. Goals are crucial to hope theory in that Snyder postulated that all human behavior is goal-oriented and that people typically think in terms of goals. Examples of commonly held

goals for students might include getting an A in a course or going to the gym three times each week.

Goals vary on several dimensions, including specificity of the goal, time to reach the goal, motivation for goal completion, and the match between one's abilities and the goal pursuit requirements (Cheavens & Ritschel, 2014). High hope individuals have well specified goals, according to hope theory, due to the fact that well specified goals compel the individual to strive intentionally toward the goal, implement specific plans to reach the goal, and feel emotional satisfaction upon attaining the specified goal (Snyder, 2002). Additionally, high hope individuals set goals with an intermediate probability of attainment; that is, they select goals that are slightly out of reach so as to require effort and focus, but that are still within the realm of possibility (Averill, Catlin, & Chon, 1990). Relatedly, high hope individuals respond to challenging goals and setbacks with energy and motivation, attributing a failure not to personal weakness but rather to poor implementation strategies (Snyder et al., 1991).

Benefits of Hopeful Thought

Many studies have enumerated the psychological benefits associated with higher levels of hope. Hope is positively correlated with positive affect, meaning in life, academic and athletic achievement, and coping with adversity (for review see Cheavens & Ritschel, 2014). For example, Snyder and colleagues (1996) found that during a 28-day diary study, hope was positively correlated with positive emotional experiences and inversely related to negative emotional experiences. Additionally, Feldman and Snyder (2005) found that in a sample of college students, hope was related to greater meaning and purpose in life.

Relatedly, hope is negatively associated with negative affect and psychopathology. Specifically, Chang (2003) found that hope is inversely associated with symptoms of depression, and Caretta, Ridner, and Dietrich (2014) found that hope is negatively associated with anxiety. Gum, Snyder, and Duncan (2006) found that hopeful thinking predicted fewer depressive symptoms for individuals who experienced a stroke three months earlier. Hope is also negatively related to suicidal ideation (Hirsch, Visser, Chang, & Jeglic, 2012) and personality pathology profiles (Cramer & Dyrkacz, 1998). Hope interventions have shown that hope is not a stable individual difference that is incapable of being changed; on the contrary, hope interventions show promising results for increasing the psychological benefits associated with hopeful thought. For example, Cheavens, Feldman, Gum, Michael, and Snyder (2006) found that an 8-week hope intervention increased psychological strengths, such as life meaning and self-esteem, and reduced symptoms of psychopathology, including depression and anxiety.

In addition to the psychological benefits associated with hope, higher hope individuals perform better on goal pursuits than their lower hope counterparts. For example, hope is positively related to better grades and higher graduation rates (Snyder et al., 2002) and better sports performance in a sample of college athletes (Curry et al., 1997). Feldman, Rand, and Kahle-Wrobleski (2009) found that in a sample of college students, goal-specific agency thinking predicted goal attainment three months later. The authors found that this goal-specific measure of hope was a more powerful predictor of later self-reported goal success than the trait measure of hope. Although Feldman et al. (2009) found that only agency predicted outcome, Feldman and Dreher (2012) found that both components of hope, agency thinking and pathways thinking, predicted goal

progress one month later. Additionally, in first year college students, a focused intervention to promote hope led to students achieving higher grades the following semester (Feldman, Davidson, & Margalit, 2014) and this effect was strongest for those with the largest intervention-induced increases in hope. Taken together, these studies show that higher hope individuals (i.e., those with higher agency and pathways scores) successfully achieve their goals more often or more completely than lower hope individuals.

Values

Theoretical accounts suggest that hope may be related to success in goal pursuits because of its relation to values. Snyder (2002) has posited that at higher levels of hope, individuals are more likely to generate and pursue value-consistent goals. Schwartz, Melech, Lehmann, Burgess, Harris and Owens (2001) defined values as "desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives" (pg. 4).

Swartz (1992) identified ten distinct yet related values that are found cross-culturally: achievement, benevolence, conformity, hedonism, power, security, self-direction, stimulation, tradition and universalism (see Figure 1 for conceptual definitions). The underlying motivational concern expressed by a value distinguishes one value from another. The values, therefore, are organized around a circular continuum based on the motivations they express (see Figure 2). For example, the values of self-direction, stimulation, and hedonism reflect the higher order motivation of openness to change. Conversely, security, tradition, and conformity values are considered conservatism values, and are thus located furthest away from the openness to change

values. In addition to openness to change and conservatism motivations, the values are also organized according to self-transcendence or self-enhancement motivations. Self-transcendence values include universalism and benevolence, while self-enhancement values include achievement and power.

The pursuit of any one value may conflict or be congruent with the pursuit of other values, according to the circular continuum of values that groups more compatible values closer together and places values with conflicting motivations further apart. For example, the pursuit of stimulation reflects a motivation of openness to change, and therefore may conflict with the pursuit of security, which reflects a motivation for conservation. Additionally, the values of of achievement and power (self-enhancement values) reflect the motivation to promote self-interests, even at the expense of others. Pursuit of these values may be in conflict with universalism and benevolence values (self-transcendent values), which reflect a motivation to connect with others and transcend selfish concerns. On the other hand, conformity and security are located close together on the circular organization of values, and are thus considered to be compatible values reflecting a motivation to protect order and maintain harmony.

These ten values have predictable and meaningful relationships with other variables, including attitudes, personality traits, behaviors and demographic variables (Schwartz et al., 2001). In terms of attitudes, religiosity is positively related to conformity and tradition values and negatively related to hedonism, self-direction, and stimulation (Roccas & Schwartz, 1997; Schwartz & Huismans, 1995). Conversely, in examining behavior variables, alcohol use is positively correlated with stimulation and hedonism (Schwartz et al., 2001). Examples of predictable relationships with

demographic variables include age and education. Age is positively correlated with tradition, conformity, and security, and negatively correlated with self-direction, stimulation and hedonism (Feather, 1975; Rokeach, 1973; Schwartz et al., 2001). Following the opposite pattern, education level correlates positively with self-direction and stimulation, and is negatively related to conformity and tradition (Kohn & Schooler, 1983; Prince-Gibson & Schwartz, 1998; Schwartz et al, 2001). It is important to note that while an individual may exhibit a particular trait, such as creativity, he or she may not necessarily hold the corresponding value, such as valuing creativity as a guiding principle in life.

Valued Living

Psychologists and philosophers have long argued that there are benefits when individuals behave in ways consistent with internal values. For example, Carol Rogers (1961) argued that in order to be a fully functioning human, individuals must act in accordance with an "organismic valuing process" occurring within them. Previous research details the positive outcomes associated with living in accord with one's values. Acceptance and Commitment Therapy (ACT) is a psychosocial intervention that explicitly focuses on increasing values-based action. Values-based action is defined as action that is taken with consideration of an individual's goals and personal aspirations for the way the individual wants to live his or her life, instead of actions taken because of outside demands or pressures (Hayes, Strosahl, & Wilson, 1999). The positive outcomes associated with increasing valued action are numerous and widespread, including: greater tolerance of aversive stimuli (Branstetter-Rost, Cushing, & Douleh, 2009); increased global life satisfaction (Oishi, Diernes, Suh, & Lucas, 1999); improved happiness, well-

being, and distress-related outcomes (Brustein, Schultheiss, & Grassman, 1998; Ciarrochi, Fisher, & Lane, 2011; Sheldon, Ryan, Deci & Kasser, 2004); improved health and psychological functioning (McCraken & Yang, 2006); less worry (Michelson, Lee, Orsillo, & Roemer, 2011); and better functioning in patients seeking treatment for chronic pain (McCracken & Vowels, 2008).

Additionally, previous research suggests that when values and goals are congruent, goal pursuits are more likely to be successful. Specifically, Koestner, Lekes, Powers, and Chicoine (2002) found that self-concordance, or the degree to which a goal reflects an individual's personal values verses values imposed by external or internal pressures, is significantly and positively associated with goal progress both one week and one month later. In this study, participants generated several goals that they planned to strive for during the semester and rated four different reasons that they were pursuing these goals: intrinsic (for the fun and enjoyment that the goal pursuit brings), identified (because you believe it is an important goal to have), introjected (because you would feel ashamed or guilty if you didn't pursue the goal), and external (because somebody else wants you to). Self-concordance was calculated by summing intrinsic and identified reasons and subtracting introjected and external reasons. Furthermore, Sheldon and Elliot (1998) found that individuals pursuing self-concordant goals invested more effort into those goals, thereby attaining such goals more often. Finally, when values and goals are congruent, psychological functioning is better, including increases in experiential need satisfaction, mood, well-being and adjustment to life changes (Sheldon & Kasser, 2001).

While goal progress typically leads to an increase in positive affect and a decrease in negative affect, goal attainment will fail to be accompanied by enhanced well being if the goals are incongruent for an individual's intrinsic needs for competence, self-determination and relatedness (Sheldon & Kasser, 1998). Additionally, while there are many positive outcomes of selecting goals consistent with individual values, self-concordant goal selection is a difficult skill given that it requires a high degree of self knowledge and it is easy to become distracted by the external demands made by other individuals, on a small scale, or by culture/society on a larger scale (Sheldon & Kasser, 2001).

Hope and Values Taken Together

Hopeful thought, according to Hope Theory, is conceptualized as a neutral individual difference (Snyder, 1994). Given that the components of hope are agency and pathways thinking, both socially deemed "good" and "bad" people can be high hope individuals. For example, a criminal who believes in his ability to commit a crime and is able to find various routes to achieve the goal would be considered high in hope. Similarly, someone considered to be a good and kind person, such as Mother Teresa, could also be high in hopeful thought. However, there is some evidence to suggest that hope may be more positively- than negatively-valenced. Previous research shows that hope is associated with goals that are rated as more altruistic and more worthy in terms of societal values (Heiy et al., 2015). Additionally, it is theorized that hope has its roots in the promotion of a group's well-being, instead of being a self-oriented, narcissistic process (Snyder, Cheavens, & Sympson, 1997). Based on these preliminary findings, an important next step in understanding the construct of hope is to evaluate the relationship

between hope and values in order to determine if hope is a value-free construct. Benevolence, defined as acting kindly and unselfishly toward other people who are close to you (Schwartz et al., 2001), may be especially relevant in the association between hope and values.

In addition to examining the relationship between hope and values, it is important to investigate possible moderators or mediators of goal-value congruence. Although there have been few such investigations in the past, there is reason to believe that hope may be relevant in this association. Ciarrochi and Heaven (2012) found a significant association between religious values and hope among high school students. Additionally, Heiy et al. (2015) found that at higher levels of hope, generated goals are more congruent with societal values as judged by observers. Whether or not goals are more congruent for individual (as opposed to societal) values in those at higher levels of hope is still untested.

Hope theory posits that individuals at higher levels of hope will be able to prioritize goals that are in-line with values better than individuals at lower levels of hope. For example, Lopez, Ciarlelli, Coffman, Stone, and Wyatt (2000) specified six life domains that relate to both goals and values: social relationships, academics, romantic relationships, family life, work, and leisure activities. They posit that if an individual values one life domain (i.e. academics) more than a different life domain (i.e. social relationships) then goals relating to the valued life domain of academics (such as achieving a certain GPA) will be more salient, occupy conscious awareness and guide behavior more than goals relating to the less valued life domain of social relationships (such as attending a party with friends). Furthermore, they suggest that in addition to the

main effect of hope on goal outcomes (that is, those with higher hope having better goal outcomes), hope will predict value-goal congruence such that at higher levels of hope, goals are more highly related to values. However, there have been no studies that specifically examine how the relationship between values and goals is influenced by hope or how these variables transact to predict goal outcome.

The main objective of this study is to examine the relationships of hope, goals and values using a longitudinal study with OSU undergraduate student participants. The hypotheses are as follows:

1. **Hope Hypotheses**
    a. Hope will predict goal attainment.
    b. Hope will be negatively related to psychopathology symptoms.
2. **Values Hypotheses**
    a. Values will be positively related to hope.
    b. Values will be negatively related to psychopathology symptoms.
    c. Benevolence will account for significant variance in hope in multivariate analyses.
3. **Goal-Value Congruence Hypotheses**
    a. Greater congruence between goals and values will lead to better goal outcomes.
    b. Hope will be associated with congruence between values and goals such that higher hope will be associated with greater congruence.
    c. Hope will moderate the relationship between congruence and outcome, such that the relationship between congruence and outcome will be stronger at higher levels of hope.

Chapter 2: Method

Participants

There were 162 participants recruited for this study. Participants were recruited though the Research Experience Program as part of an introductory psychology class at the Ohio State University. Participants ranged in age from 18 to 34, with a mean age of 19.07 years. The majority of the sample (74%) was female and 76% identified as Caucasian, followed by those who identified as Asian (13%) or African American (5.6%). Participants were required to be at least 18 years of age. No other exclusion criteria were used.

Given missing data and attrition throughout the course of the longitudinal study, the sample size for specific analyses varies between 162 participants and 133 participants. One hundred and sixty-two participants completed the initial data collection (Time 1), 144 participants completed the one-week follow-up (Time 2), and 133 participants completed the one-month follow-up (Time 3). The corresponding sample size for each analysis is noted in the results section.

Materials

Demographic questionnaire. We asked participants to indicate their age, sex, ethnicity, marital status, family SES, and previous mental health diagnoses.

Hope Scale (Snyder et al., 1991). Hope was assessed using the Hope Scale, which is a 12-item self-report measure to assess an individual's ability to successfully determine pathways toward desired goals as well as an individual's agency to follow the pathways in pursuit of a goal. The scale contains four items to measure pathways thinking, four items to measure agency thinking, and four distractor items. Respondents use an 8-point

Likert scale ranging from "definitely false" to "definitely true" for each of the 12 items, giving a total scale score ranging from 8 to 64. Internal consistency (Cronbach alpha coefficients ranging from .74 to .84) and test-retest reliability (.85 over a 3-week interval) are good.

Portrait Values Questionnaire (PVQ; Schwartz et al., 2001). The PVQ is a 40-item measure of 10 different values that have been cross-culturally validated in samples from Israel, Italy, South Africa and the United States. Respondents rate on a scale of 1 to 6 how important each value prompt is as a guiding principle in their lives. Test-retest reliability is moderate to high, ranging from .66 to 88. Both the convergent and discriminant validity of the PVQ have demonstrated adequacy. The internal reliability coefficients for the values range from .37 (tradition) to .79 (hedonism) for the PVQ (median, .55).

The Center for Epidemiological Studies - Depression Scale, (CES-D; Radloff, 1977). The CES-D was used to measure the presence and severity of depressive symptoms. The CES-D scale is a 20-item self-report instrument that measures the frequency of depressive symptoms over the past week. Participants respond to each item using a 0 (rarely or none of the time, less than one day) to 3 (all of the time, 5-7 days). The total score ranges from 0 to 60. The CES-D has evidenced very high internal consistency in both patient (Cronbach alpha coefficient = .90) and adult (alpha = .85) samples as well as adequate test-retest reliability.

The State Trait Anxiety Inventory (STAI; Spielberger, 1983). The STAI was used to measure state anxiety symptoms. This is a 20-item self-report questionnaire asking participants to indicate using a 4-point Likert scale how well each of the 20 traits

related to state anxiety describes them, according to how they have been feeling over the past week. The internal consistency of the STAI using Cronbach's alpha coefficient ranges form good to excellent (between .86 to .95).

Goals, Values, and Life Domains Assessment. The Goals, Values and Life Domains Assessment was created for this study to assess individual goals and values. To identify current goals, participants were asked to write down three goals they would like to achieve in the following week, along with three goals that they would like to achieve in the following month. Participants were asked to be specific in their goal naming and to consider goals across all aspects of their life. For each goal, participants rated the importance of the goal on a scale of 0 (not at all important to me) to 6 (extremely important to me). Based on the work of Schwartz, Melech, Lehmann, Burgess, Harris and Owens (2001), 10 values, along with their definitions, were presented to the participants. Participants were asked to spend time reflecting on their values and then rank their top five values. Finally, 10 life domains, generated from the Valued Living Questionnaire (Wilson, Sandoz, Kitchens, & Roberts, 2010) were assessed. For each life domain, participants were asked to indicate the importance of the life domain using a response scale ranging from 1 (not all important) to 10 (extremely important). The Goals, Values, and Life Domain Assessment is included in Appendix B.

Procedure

A longitudinal design was used to ask participants about their values, goals, and psychological functioning. Participants who agreed to participate signed up online though Ohio State's Research Experience Program website. Data collection and consent procedures occurred electronically. Participants were given a description of the study to

read, notified that their participation was voluntary, and informed that they could leave the study at any time and still receive credit.

Participants completed a series of questionnaires to measure hope, symptoms of depression, anxiety, portrait values and demographics. Participants had the option to skip any question.

Next, participants were asked about their goals and values. Using the Goals, Values, and Life Domains Assessment, participants wrote down three goals that they hoped to achieve in the next week, along with three goals that they planned to achieve in the following month. Additionally, participants were asked to rank their top five values from a list of 10 values defined by Schwartz and colleagues (2001). Lastly, participants were asked to rank the personal importance of each of 10 life domains on a scale from 1 (not at all important) to 10 (extremely important).

One week after the completion of the initial questionnaires, participants were sent a link via email to complete the second stage of the study. Participants were asked whether or not (0=no; 1=yes) they completed their three goals that they listed during session one. Additionally, participants were asked to indicate the percentage of completeness (0 to 100) for each goal that they listed in the first study session. They were also asked to rate on a scale of 0 to 100 the successfulness of their goal pursuit along with their satisfaction with the outcome of the goal pursuit. Finally, participants completed measures of psychological functioning at the one-week follow-up, including measures of symptoms of depression and anxiety.

One month after the initial study session, participants were sent an email similar to the one they received at the one-week follow-up. This last check-in asked participants

about updates on the three goals that they listed for that month. After the one-month follow-up, participants were emailed a debriefing form along with a copy of their consent form.

Three undergraduate research assistants were trained to code the goal-value congruence. The Goal Coding Manual instructed the coders to mark on a scale of 1 to 5 how much each goal corresponded to each of the 10 values. A score of 1 means that the goal is not at all related to the value. For example, the goal of "get an A in my stats class" would receive a score of 1 for the value of universalism. However, the same goal "getting an A in stats class" would receive a score of 5 for the value of achievement. A score of 3 means that the goal is somewhat related to the value. The goal of "try to find a balance between work and fun" would earn a score of 3 for hedonism according to the coding manual.

Coders were instructed on how to utilize the coding manual. An explanation of the meaning of the 10 values and examples of goals relating to the values were provided. The coders received 20 training goals in which they practiced rating the goals on each of the 10 values. The inter-rater reliabilities at this time included: achievement (.83), benevolence (.91), conformity (.73), hedonism (.40), power (.34), security (.84), self-direction (.65), stimulation (.69), tradition (.70), and universalism (.03). A follow-up coding meeting occurred after the 20 training goals were completed in which reliability issues were addressed and additional practice goals were completed and discussed.

The order of the goals was randomly assigned to each of the coders, who coded all of the goals in a 10-week period. Coding meetings continued to take place bi-weekly to address any issues that arose and to maintain inter-rater reliability. The ICCs at the

end of the coding project were: achievement (.82), benevolence (.88), conformity (.00), hedonism (.79), power (.10), security (.25), self-direction (.32), stimulation (.36), tradition (.71), and universalism (.42).

Chapter 3: Results

Data Analytic Plan and Preparation

Questionnaire data distributions were examined for outliers, skewness and kurtosis in order to make sure that assumption of normality were met. We used a +/- 3.3 standard deviations from the mean cutoff (Tabachnick & Fidell, 2001) to identify significant outliers. On the Pathways measure of the Hope Scale, one participant was identified as an outlier and excluded from pathways analyses. Next, descriptive data were compared to previous findings in the literature to ensure that means fell within the expected ranges. Bivariate correlations were calculated among the variables of interest to ensure that correlations were in the expected directions.

For the purpose of this study, we calculated goal-value congruence by first averaging the three coders' ratings of how well each of the 10 values corresponded to each goal. At this stage, there were ten average value congruence ratings for each goal.

Next, utilizing the participants' top 5 value rankings, we reverse scored the rankings such that the participant's most important value would receive a score of 5, the second ranked value would receive a score of 4, and so on. The five values that were not ranked by the participant received a score of -1.

We then multiplied the participant's reverse scored value by the average coder rating of the corresponding value. In order to obtain one total congruence score for each goal, we totaled the ten multiplied value congruence scores for each goal. Finally, for each participant we averaged their total congruence score across the six goals that the participant identified at Time 1.

Descriptive Results

Table 1 presents the means and standard deviations for the key variables of interest in this study, including hope, depression, and anxiety. In terms of goal completion, participants completed an average of 1.8 out of their three weekly and monthly goals. Table 2 provides the descriptive statistics for the weekly and monthly goal progress updates.

Over 50% of participants ranked achievement as their top value, whereas conformity was the least frequently endorsed value. The Portrait Values Questionnaire, on the other hand, shows that participants in this sample scored highest on the value of benevolence (M = 4.63, SD = .88). Table 3 lists the means and standard deviations of the ten values from the Portrait Values Questionnaire.

The goal-value congruence scores range from 30 (highest goal-value congruence in our sample) to 7 (lowest goal-value congruence in our sample). The possible range of congruence scores is 85 to -15. The average goal-value congruence score was 21.7.

We utilized a t-test in order to examine participants who completed both the one-week and one-month follow-ups compared to participants who did not complete the follow-ups. The completers had higher levels of hope ($t(160) = -3.14$, $p < .05$) and conformity ($t(155) = -2.45$, $p < .05$), and lower levels of depression ($t(160) = 3.24$, $p < .01$) and anxiety ($t(158) = 2.49$, $p < .05$), compared to the drop-outs.

Hope Hypothesis 1a: Hope will predict goal attainment.

Utilizing linear regression analyses, we found support for Hypothesis 1a. Hope at Time 1 predicted goal completion at Time 2 (Adj. $R^2 = .07$, $\beta = .28$, $SE = .01$, $p < .01$).

Additionally, as expected, hope at Time 1 predicted goal completion at Time 3 (Adj. R^2 = .04, β = .23, *SE* = .01, $p < .01$).

Hope Hypothesis 1b: Hope will be negatively related to psychopathology symptoms.

We found support for Hypothesis 1b. In concurrent bivariate correlational analyses, we found that hope was negatively related to symptoms of anxiety ($r = -.55$, $p < .01$) and symptoms of depression ($r = -.57$, $p < .01$) at Time 1.

Values Hypothesis 2a: Values will be positively related to hope.

The results support this hypothesis. In concurrent analyses utilizing Time 1 data, all values were positively correlated with Hope Total Score (*p*s < .01) at the bivariate level. Additionally, all of the values were positively correlated with Agency Thinking (*p*s < .05) and Pathways Thinking (*p*s < .05) at Time 1. Table 4 provides the correlations between the ten PVQ values and hope scores.

Values Hypothesis 2b: Values will be negatively related to symptoms of psychopathology.

In concurrent analyses, all of the values, except stimulation, were negatively correlated with symptoms of depression (*p*s < .05) and anxiety (*p*s < .05) at Time 1. Table 5 provides the correlations between the PVQ values and symptoms of depression and anxiety.

Values Hypothesis 2c: Benevolence will account for significant variance in hope in multivariate analyses.

This hypothesis was also confirmed. When all values are included in a concurrent multiple linear regression model, significant variance in total hope scores was accounted for only by the value of benevolence (β = .31, $p < .05$) at Time 1. For Agency Thinking

scores, benevolence (β = .35, $p < .01$) and power (β = .18, $p < .05$) accounted for significant variance at time 1. When all values were included in the model predicting Pathways Thinking, only self-direction (β = .26, $p < .05$) and power (β = .20, $p < .05$) accounted for significant variance in the pathways scores at Time 1. Table 6 provides the regression statistics for the ten PVQ values and the hope scores.

Congruence Hypothesis 3a: Greater congruence between goals and values will lead to better goal outcomes.

Contrary to what we expected to find, goal-value congruence did not significantly predict goal completion at either the one-week (Adj. R^2 = -0.01, β = .05, SE = .02, p = .60) or the one-month follow-up time points (Adj. R^2 = -0.01, β = .06, SE = .02, p = .52).

Congruence Hypothesis 3b: Hope will be associated with congruence between values and goals such that higher hope will be associated with greater congruence.

We did not find evidence in support of hope being associated with goal-value congruence. The correlation between Hope Total Score and congruence was -0.03 (p = .69). Similar results were found between congruence and agency thinking (r = .03, p = .74), and pathways thinking (r = -0.08, p = .32).

Congruence Hypothesis 3c: Hope will moderate the relationship between congruence and outcome, such that the relationship between congruence and outcome will be stronger at higher levels of hope.

We found that although hope did not moderate the relationship between congruence and goal outcome at the one-week follow-up (p = .60), hope did moderate the relationship between congruence and goal outcome at the one-month follow-up. The

results showed that the interaction of hope and congruence was significant (β = -2.17, *SE* = .003, $p < .01$). When we probed the interaction further, we found that for individuals at low levels of hope (at least one standard deviation below the mean), goal-value congruence significantly predicted goal outcome ($p < .05$). However, for all other levels of hope, congruence and outcome were unrelated. Table 7 provides the regression table results for the moderation analyses, and Figure 3 provides a graph of the interaction between hope and congruence.

Chapter 4: Discussion

Hope and Values Findings

Our results provide additional support for the previous research that has found links between hope and myriad positive outcomes (e.g., Cheavens & Ritschel, 2014). In this study, hope was associated with fewer symptoms of psychopathology, including anxiety and depression. Additionally, higher hope individuals completed their weekly and monthly goals more fully and reported feeling more satisfied with their goal progress and goal outcomes.

These results are the first, to our knowledge, to explore the relationship between hope and values. As expected, the data show that all values are positively related to hope at the bivariate level. However, in multivariate analyses, there is a clear association with benevolence that outweighs the other value-hope associations. The salient finding that all values, besides benevolence, do not significantly predict variance in hope scores when simultaneously entered into the model is an important and novel contribution to our understanding of the construct of hope. This suggests that hopeful thought does not appear to be value-free; rather, hope seems to be related to particular self-transcendence values that center on acting kindly and unselfishly toward other people.

Congruence Findings

We did not find any significant correlations between goal-value congruence and hope or goal-outcomes. Based on the tenant of hope theory specifying that higher hope individuals will be able to set goals that are in line with their goals better than lower hope individuals, the lack of association between hope and congruence is surprising. However, there are many possible explanations for this null finding. The coders

evidenced poor inter-rater reliabilities when coding congruence between goals and values. Therefore, more in-depth training of the coders to increase reliability could be an important next step in this research. It is possible that the poor ICCs accounted for the non-significant relationships between goal-value congruence and hope as our ability to detect any signal in these low reliability ratings is likely impaired. Also, the Goal Coding Manual, in its current form, may be an inadequate tool to properly train the coders and thus may need to be revised with additional instructions and more detailed examples.

Conversely, there may be more valid approaches to calculating goal-value congruence than the method that we utilized. For example, asking participants to rate how much each goal is in line with what they value instead of having coders make this judgment may better capture the goal-value congruence construct. Utilizing coders to rate goal-value congruence may be ineffective because the same goal (e.g., go to the gym) may be influenced by different values for different individuals. For one individual, going to the gym may be in line with their value of hedonism. For another individual, the same goal may be in line with their value of achievement. Asking participants to rate congruence would help to eliminate this issue of interpreting the underlying motivation of the goals. Alternatively, it may be that congruence and hope are truly unrelated constructs. More research is needed to determine which of these possibilities is accurate.

Although we failed to find a correlational relationship between hope and congruence, we did find support for hope moderating the relationship between goal-value congruence and monthly goal completion. When we probed the interaction further, we found that the goal-value congruence and monthly goal completion were only significantly related for individuals at low levels of hope. This suggests that when low

hope individuals (who typically perform poorly on goal pursuits compared to higher hope individuals) set value-consistent goals, they achieve their goals more often. For individuals at higher levels of hope, it seems that congruence is less important; hope is already aiding these individuals in achieving their goals. These results suggest that goal-value congruence may be an especially important construct for low hope, instead of high hope, individuals.

While hope moderated the relationship between congruence and goal completion at the one-month follow-up, the results did not support the same moderation model for the one-week follow-up. Short-term goals may be less influenced by goal-value congruence. Asking participants to consider more long-term goals may increase the likelihood that the generated goals will be more in line with globally held values.

Implications

The results of this study provide valuable insight into the relationship between hope and values. It appears that hope is most closely aligned with values related to helping and being kind to other people. While these results are correlational, it may be postulated that performing acts of kindness might increase hope in individuals, and perhaps, the associated positive outcomes as well. Alternatively, being hopeful might increase the likelihood to set and successfully enact kind goals.

Additionally, there may be important clinical implications associated with the results showing that hope moderates the relationship between congruence and goal completion. Given that successful goal setting is an important skill that impacts nearly all professional and personal endeavors, understanding the ways to optimize this process is important. Helping individuals, especially those low in hope, set goals that are

congruent with what they value may provide a potentially rewarding avenue for increasing goal pursuit success in financial, educational, and psychological realms.

Limitations

The limitations of the study primarily center on the poor inter-rater reliabilities of the three coders of goal-value congruence. In future studies, this limitation could be addressed by improving upon the training materials. For example, the Goal Coding Manual should be revised to include more specific details on how coders should reliably utilize the 6-point Likert scale in determining goal-value congruence. Alternatively, this limitation could be addressed by utilizing different methodologies, such as participant rating of goal-value congruence, in order to more reliably capture congruence. Additional limitations include the relatively homogenous undergraduate sample of majority female and Caucasian students. Finally, there was differential drop-out in the study such that lower hope individuals were less likely to complete the follow-up surveys. Given that lower hope individuals were more likely to drop out, this may have impacted our analyses as we were interested in seeing how hope impacted longitudinal outcomes including goal completion and the moderating effects of hope.

Future directions

More research is needed to understand the construct of goal-value congruence. In the future, different methodologies could be utilized to better capture the congruence construct. For example, instead of coding congruence post-data collection, it may be beneficial to have participants rate how much they are motivated by each value to complete their generated goals, or how much they think that completing each goal would fulfill each value. An additional next step in understanding congruence would be to

experimentally manipulate goal-value congruence in order to causally look at goal outcomes at various levels of hope for possible clinical applications. For example, prior to participants generating goals, a values intervention could occur in which participants are asked to reflect on what they value. In this way, the impact of the values intervention on goal setting could be explored. An alternate method to explore congruence could be to give participants feedback on their goals and values: in one group, participants would receive feedback that their goals and values are congruent. The other group could receive feedback that their goals and values are unrelated. The impact of this congruence feedback could be longitudinally explored through follow-up surveys to investigate goal outcomes. Finally, given the hope moderation findings, an important next step in this line of research is to explore the impact of goal-value congruence on longer-term goals. It seems that long-term goals may trigger individuals to consider goals in line with their values better than short-term goals. Future studies should utilize longitudinal designs that track goal progress over a longer period of time.

Conclusion

The main purpose of this study was to further understand the relationship between hope, goals, and values. The results confirmed the hypotheses that hope would be negatively related to symptoms of anxiety and depression, and positively related to goal completion and goal satisfaction. Additionally, the results expand our understanding of the construct of hope, specifically exploring its relation to the value of benevolence. Further research is needed to understand the relationship between goal-value congruence, hope and goal outcomes.

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Appendix A: TABLES

Table 1

Means and Standard Deviations for Time 1 Hope, Depression, and Anxiety

	M	*SD*
HS-Total	50.5	6.5
HS-Pathways	24.3	3.8
HS-Agency	26.2	3.6
CES-D	15.1	10.5
STAI	38.2	12.2

Note. N = 161 for all variables, except STAI (*N* = 160); HS - Total/Pathways/Agency = Hope Scale - Total/Pathways/Agency.

Table 2

Means and Standard Deviations for Weekly and Monthly Goal Progress

	Weekly Goals		Monthly Goals	
	M	*SD*	*M*	*SD*
Goal Completion	1.81	0.88	1.83	0.84
Percent	68.66	22.17	64.65	22.11
Progress	65.57	23.53	62.62	22.63
Outcome	64.41	24.03	61.93	22.85

Note. Goal Completion= yes/no, *R* = 0 - 3; Percent= average percent of weekly/monthly goal completion, *R* = 0 - 100; Progress = Satisfaction with goal progress, R = 0 - 100; Outcome = Satisfaction with goal outcome, *R* = 0 - 100.

Table 3

Means and Standard Deviations for PVQ Values

	M	*SD*
Achievement	4.51	0.92
Benevolence	4.63	0.87
Conformity	4.28	0.93
Hedonism	4.53	0.89
Power	3.56	0.98
Security	4.38	0.84
Self-Direction	4.48	0.84
Stimulation	4.23	0.96
Tradition	3.75	0.84
Universalism	4.25	0.80

Note. N = 156.

Table 4

Correlations between PVQ, Hope Scale - Total, Hope Scale - Agency, and Hope Scale - Pathways

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. HS - Total													
2. HS - Agency	.90**	-											
3. HS - Pathways	.90**	.62**	-										
4. Achievement	.32**	.30**	.27**	-									
5. Benevolence	.42**	.42**	.33**	.60**	-								
6. Conformity	.35**	.39**	.24**	.49**	.55**	-							
7. Hedonism	.37**	.32**	.35**	.53**	.53**	.42**	-						
8. Power	.29**	.24**	.28**	.52**	.13	.24**	.38**	-					
9. Security	.37**	.36**	.30**	.56**	.60**	.69**	.54**	.29**	-				
10. Self-Dir	.38**	.30**	.38**	.53**	.63**	.41**	.50**	.26**	.52**	-			
11. Stimulation	.26**	.23**	.23**	.49**	.44**	.28**	.58**	.26**	.40**	.53**	-		
12. Tradition	.31**	.31**	.26**	.30**	.43**	.54**	.27**	.13	.47**	.34**	.26**	-	
13. Universalism	.26**	.26**	.20*	.38**	.63**	.50**	.34**	.05	.45**	.52**	.48**	.43**	-

Note. $*p < .05$; $**p < .01$; $N = 156$

Table 5

Correlations between PVQ, Depression, and Anxiety

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. CES-D												
2. STAI	.71**	-										
3. Achievement	-.20*	-.25**	-									
4. Benevolence	-.27**	-.35**	.60**	-								
5. Conformity	-.34**	-.38**	.49**	.55**	-							
6. Hedonism	-.33**	-.35**	.53**	.53**	.42**	-						
7. Power	-.27**	-.23**	.52**	.13	.24**	.38**	-					
8. Security	-.29**	-.28**	.56**	.60**	.69**	.54**	.29**	-				
9. Self-Direction	-.25**	-.29**	.53**	.63**	.41**	.50**	.26**	.52**	-			
10. Stimulation	-.15	-.11	.49**	.44**	.28**	.58**	.26**	.40**	.53**	-		
11. Tradition	-.26**	-.24**	.30**	.43**	.54**	.27**	.13	.47**	.34**	.26**	-	
12. Universalism	-.17*	-.18*	.38**	.63**	.50**	.34**	.05	.45**	.52**	.48**	.43**	-

Note. $*p < .05$; $**p < .01$; *N = 156*

Table 6

Multivariate regression analyses: PVQ and Hope subscales

	HS - Total				
	B	*SE* B	β	*t*	*p*
Achievement	-0.97	0.80	-0.14	-1.21	0.23
Benevolence	2.34	0.91	0.31	2.56	0.01
Conformity	0.50	0.77	0.07	0.65	0.52
Hedonism	0.81	0.75	0.11	1.08	0.28
Power	1.16	0.59	0.18	1.98	0.05
Security	-0.10	0.87	-0.01	-0.12	0.91
Self-Dir	1.15	0.78	0.15	1.47	0.14
Stimulation	0.03	0.67	< 0.01	0.04	0.97
Tradition	0.96	0.68	0.12	1.40	0.16
Universalism	-1.07	0.83	-0.13	-1.29	0.20

Table 6 continued

	HS- Agency				
	B	*SE* B	β	*t*	*p*
Achievement	-0.46	0.44	-0.12	-1.04	0.30
Benevolence	1.45	0.51	0.35	2.87	< .001
Conformity	0.67	0.43	0.18	1.56	0.12
Hedonism	0.14	0.41	0.04	0.34	0.74
Power	0.64	0.33	0.18	1.98	0.04
Security	0.04	0.48	0.01	0.07	0.94
Self-Dir	-0.01	0.43	< 0.01	-0.02	0.99
Stimulation	0.14	0.37	0.04	0.38	0.70
Tradition	0.37	0.38	0.09	0.97	0.33
Universalism	-0.41	0.46	-0.09	-0.89	0.38

	HS- Pathways				
	B	*SE* B	β	*t*	*p*
Achievement	-0.45	0.45	-0.12	-1.00	0.32
Benevolence	0.69	0.51	0.17	1.35	0.18
Conformity	-0.13	0.43	-0.04	-0.31	0.76
Hedonism	0.62	0.42	0.16	1.50	0.14
Power	0.73	0.33	0.20	2.21	0.03
Security	0.10	0.49	0.02	0.19	0.85
Self-Dir	0.92	0.44	0.22	2.08	0.04
Stimulation	-0.18	0.38	-0.05	-0.47	0.64
Tradition	0.48	0.38	0.11	1.25	0.21
Universalism	-0.25	0.47	-0.06	-0.53	0.60

Note. *N* = 156.

Table 7

The Interaction of Hope and Congruence Predicting Goal Completion

	Weekly Goal Completion				Monthly Goal Completion			
Predictor Variable	*B*	*SE*	β	*p*	*B*	*SE*	β	*p*
Intercept	-2.16	3.38		0.53	-8.03	3.25		0.02
Congruence	0.09	0.15	0.41	0.57	0.38	0.14	1.87	< 0.05
HS-Total	0.07	0.07	0.52	0.27	0.19	0.06	1.44	< 0.01
HS-Total x Congruence	< 0.01	< 0.01	-0.44	0.60	-0.01	< 0.01	-2.17	< 0.01
	R^2 = .06, F(3,139) = 4.20, p < .01				R^2 = .08, F(3,128) = 4.64, p < .01			

Note. HS-Total = Hope Scale Total

Appendix B: STUDY FORMS

Goals, Values, and Life Domains Assessment

In this next exercise, we will ask you to consider what goals you have for the following week and the following month. Goals are the specific, mental endpoints of purposeful activity. Stated in another way, goals are the object of a person's effort, or a desired result. For example, someone's goal could be to get an A on his or her next chemistry test. Another goal could be to reconcile a relationship. When thinking about your goals, please be specific and consider goals across all aspects of your life. Please rate the importance of each goal on a 0-6 scale, with 0 being "not at all important" and 10 being "extremely important."

Three goals for the following week:

1. _____
2. _____
3. _____

Three goals for the following month:

1. _____
2. _____
3. _____

Next, we would like you to consider your values. Values are things that you personally consider important. Values allow one to prioritize wants and needs. We will give you a list of values to think about. After spending some time thinking, please choose and rank your top five values. If one of your values is not shown, please check "other" and type in your value.

Achievement: Success through hard work and determination.

Benevolence: Acting kindly and unselfishly toward other people who are close to you.

Conformity: Acting in a way that does not violate the social norms or social expectations.

Hedonism: Personal gratification and pleasure.

Power: Having a high social status or control over others.

Security: Safety, stability and harmony.

Self-direction: Freedom to think and act independently.

Stimulation: Excitement, novelty and challenge in life.

Tradition: Respecting and accepting cultural or religious customs.

Universalism: Understanding, appreciating and protecting all people and nature in a just way.

Finally, we are interested in the importance of various life domains. For example, an individual could value finding a stable job more than keeping their body physically fit. Below you will find ten life domains. Please choose a number from 1 (not at all important) to 10 (extremely important) for each life domain.

1. Family Relations
2. Marriage/couples/intimate relations
3. Parenting
4. Friendships/social relations
5. Employment
6. Education/training
7. Recreation
8. Spirituality
9. Citizenship/community life
10. Physical well-being

Appendix C: FIGURES

Figure 1: PVQ Value Definitions (Schwartz, 2012)

Value	Conceptual definition[a]
Self-direction	Independent thought and action—choosing, creating, exploring
Stimulation	Excitement, novelty, and challenge in life
Hedonism	Pleasure and sensuous gratification for oneself.
Achievement	Personal success through demonstrating competence according to social standards
Power	Social status and prestige, control or dominance over people and resources
Security	Safety, harmony, and stability of society, of relationships, and of self
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provides
Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
Universalism	Understanding, appreciation, tolerance and protection for the welfare of *all* people and for nature

Figure 2: Portrait Values Questionnaire – Structure of Values (Schwartz, 1992)

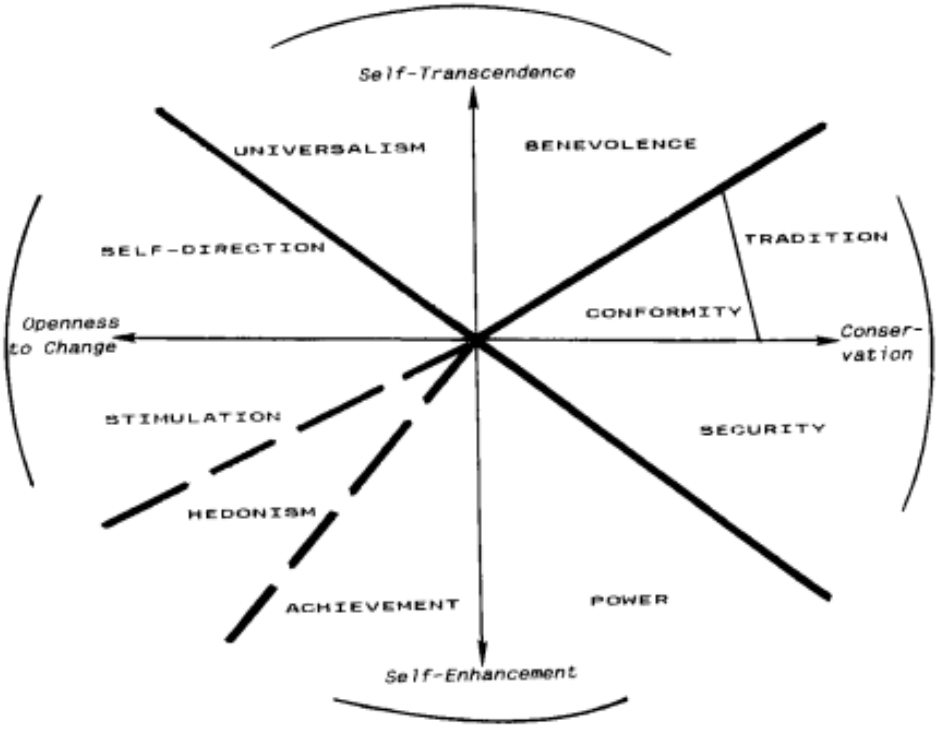

Figure 3: Hope moderating the relationship between Goal-Value Congruence and Monthly Goal Outcome